MFG473675

Mighty Oaks from Little Acorns Grow: New Product Introduction in Vault PLM

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Learning Objectives

- Gain insights into your company's product portfolio using Vault PLM.
- Get real-time views of development status and reporting functions.
- Learn how to set up NPI/NPD project templates that standardize deliverables and tasks.
- Learn how to phase-gate milestone tracking to foresee delays and make corrections.

Description

All great products start with an idea. See how Vault PLM software can help you get your latest product innovations to market on time and on budget.

Speaker(s)

Michelle is a Technical Marketing Manager here at Autodesk focused on PDM & PLM. She loves to write about Enterprise Software, Manufacturing Engineering Process, Data Management Best Practices, and share tips and tricks with the Autodesk community.

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Course Overview

This course will give a solid overview of what Vault PLM is and how by combining Vault Professional and Fusion Lifecyle together you can bring better products to market faster.

In particular, we'll cover the importance of using reports and charts to get and share out insights about your project portfolio – this provides both insights and status. Tracking activities is what drives what's in the reports and charts. We'll also cover how templates can be used and look into how to configure them – this is what I think it great about the Vault PLM solution – you don't have to change the way you work, it's simple software configuration changes that can be made. There's also great value in this standardization – when you're running reports on project status you know you're comparing apple to apples.

Difference Between PDM and PLM

When asked about the difference between the two, I tend to draw back on my work history .I've worked in the industry since the late 90s – when we moved from engineering data management as the discipline to the distinct Product Data Management and Product Lifecycle Management realms. In my mind, the main difference between the two comes down to files versus items.

Managing your Data

Product Data Management (PDM) deals with files. PDM is intended to control and organize your source file information – CAD models and specifications. PDM manages sets of linked files in hierarchical (real or virtual) folders. It is built around the inter-dependencies of those file formats. Key functions are to provide a seamless interface with authoring tools (sometimes in innate, but often via add-ins or adapters).

Process Management

In contrast, Product Lifecycle Management (PLM) is intended to provide the management and visibility of item information. This means revision and change control as well as processes that involve representations from different functions across the enterprise. People from outside of the engineering department also need access to product information. PLM provides collaboration processes tied to workflows, project execution, quality, sourcing, and more. Those capabilities won't be found in PDM as the focus is different. The intent of PDM is just support engineers and the management to their files, they don't have the need for these cross functional workflows. By the same token, since PLM isn't really focused on the document management for specific inter dependent technical file formats, the PLM systems are often lacking the necessary data representations and integrations to fully represent the complexity of the source data. That's where PDM comes in to play and why having both systems can be critical to an enterprise.

What a PLM System Provides

Why do companies choose to deploy an enterprise solution like PLM? Most companies operate in functional silos. Department heads set up processes using whatever tools are available, typically excel and email. Little attention is paid to how information flows across the enterprise. While individuals may be organized, processes that involve people and information from multiple functions are chaotic and inconsistent. Product information – the life-blood of manufacturers – is hard to find, inconsistent, often outdated and difficult to interpret. This leads to errors, delays, inefficiency, and perhaps more importantly, low morale and difficulty hiring and retaining the best people. Most companies aren't even aware of the layers of redundancy and slack they've built into their "business-as-usual" processes.

A company's operations can be thought of as a set of activities or business processes which produce value. Processes use inputs such as people, suppliers and supporting overhead and assets, to produce value. This value of "output" can be measured in a variety of ways such cycle-time, error-rates, or even new product revenues. From a high-level, the output of an aggregation company business processes is its financial performance.

How these business processes are performed have a tangible impact on these results. Companies are good at adding resources until a process "saturates" whereby incremental inputs have little no effect, or even reduce, overall results. The other variable is process performance – that's what we're here to talk about today. A better process produces better results (or outputs) with fewer inputs / lower costs.

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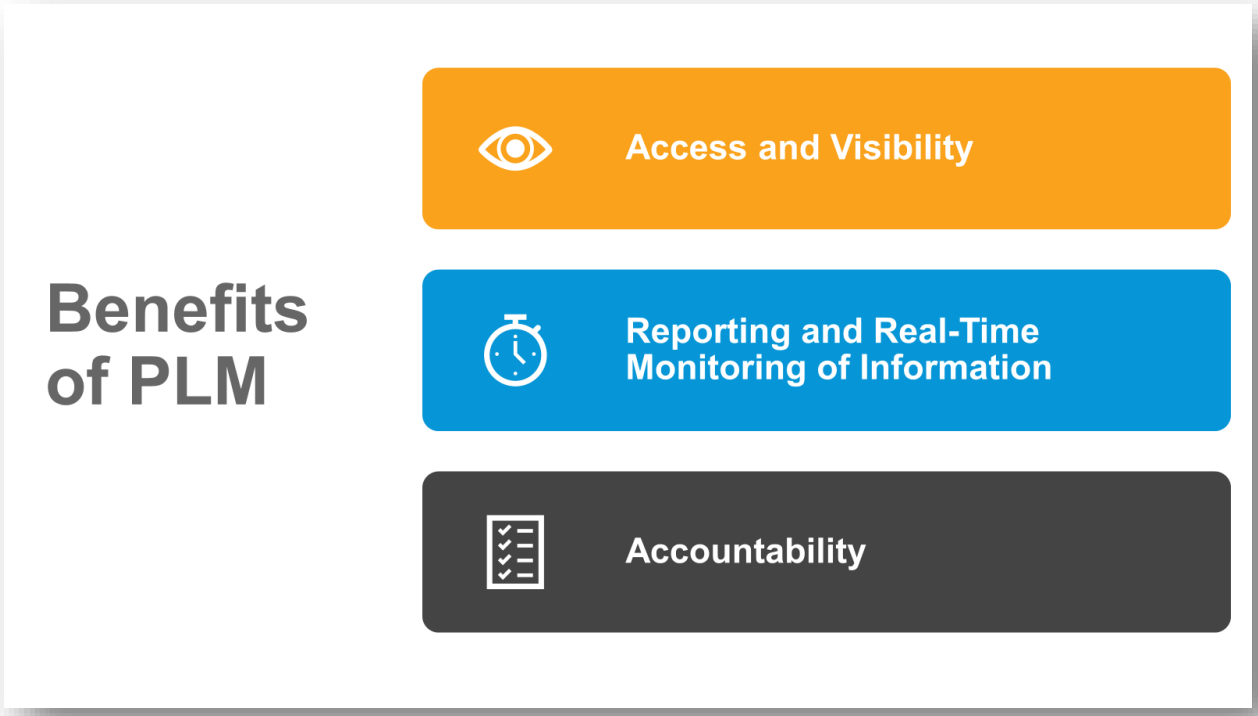
Fusion Lifecycle is a product lifecycle solution aimed at helping accelerate product development processes across all departments and locations by automating workflow, key tasks and delivering timely information. Because Fusion Lifecycle is on the cloud, everyone has access to the data they need anytime, anywhere.

There are three main goals to a PLM system:

1. Access and Visibility
2. Reporting and Real-Time Monitoring of Information
3. Accountablility.

We'll see these three main themes come in to play in every core use case and capablilty, but will focus on how these are highlighted in the NPI case.

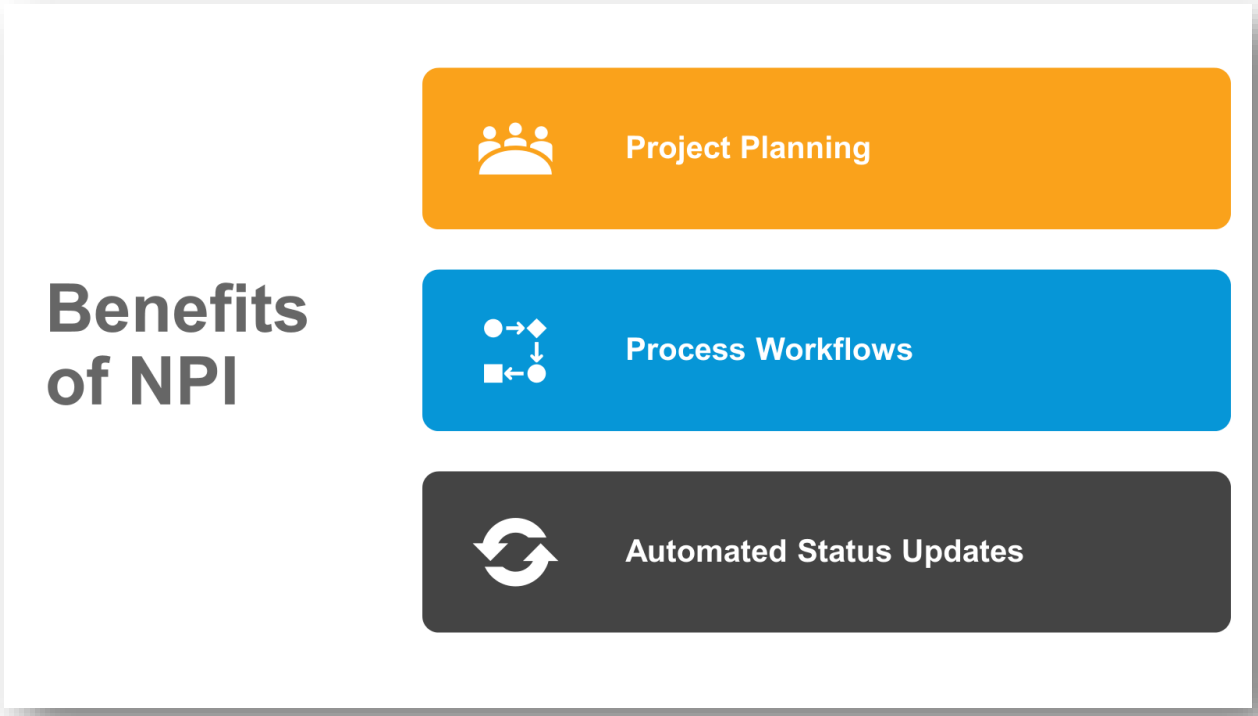
Benefits of PLM



One of the biggest problems that PLM solves is finding stuff. There's a few different statistics around what amount of business time is wasted searching for information to do a job effectively – it averages out to about 20 – 30%. By having information easy to find in one central system – and then coupling that with the ability to report against that information easily, this wasted time can be reduced.

I also mention accountability as a main goal. I like to say having processes digitized, you can easily see who did what, when, and why – and this helps leave a sort of audit trail. We'll see this not only in the record information and workflow comments but also in change log that gets captured. When we look at setting up tasks to help keep a project moving along, we also have some tools at our disposal like reminders and escalations to help with accountability.

Benefits of NPI



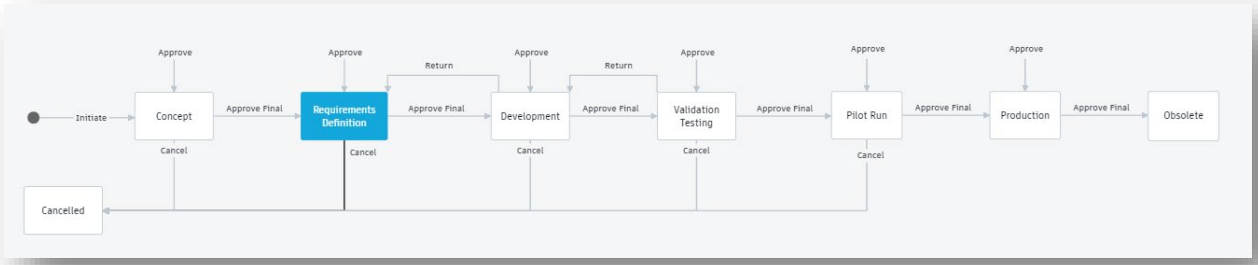
On top of all the things PLM does, incorporating these NPI topics lets you have an overarching process for handling long term development efforts.
PLM provides tactical functions for managing items and changes, whereas the capabilities that NPI provides are more strategic.

As you'll see in the demonstration in the course, we have the ability to define detailed project plans that are executed through process workflows – this gives users the ability to maintain and report against individual tasks.

The status updates are at a granular level but they rollup to the project giving stakeholders a high level overview of the project status. We'll also see how this feeds into a phase gate approach for managing product development.

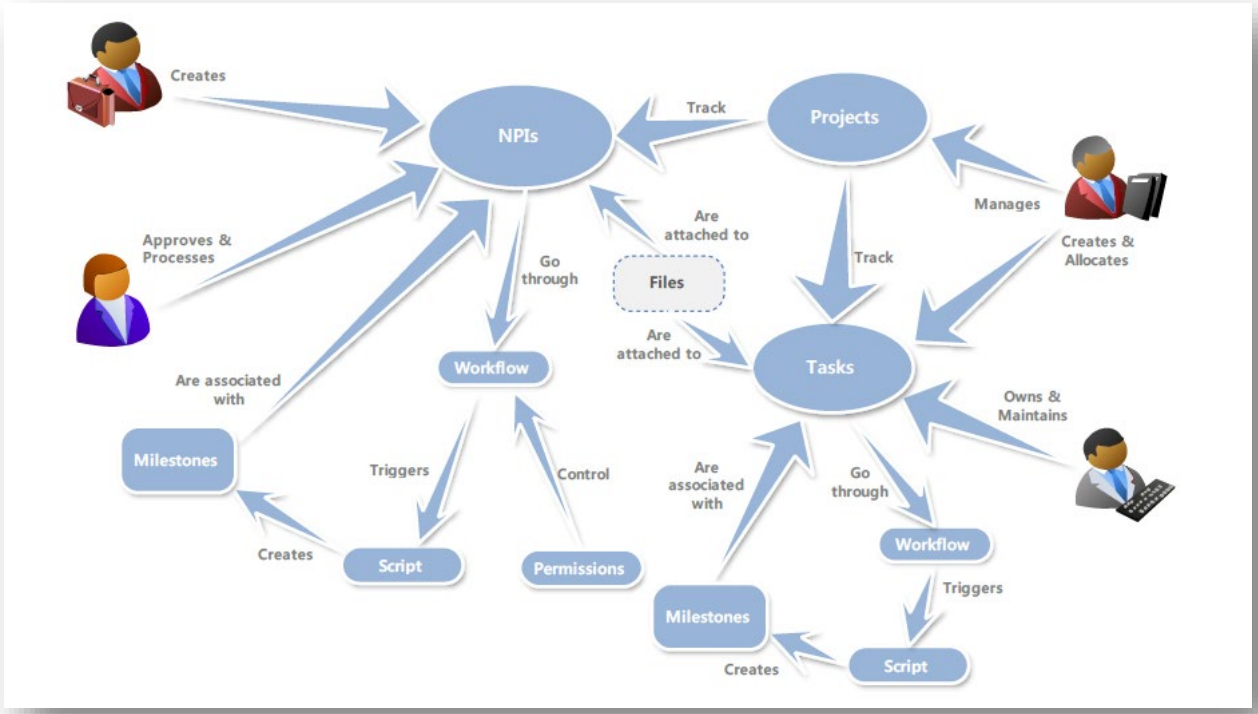
How PLM Supports Product Ideation, Design, Test and the Release Phases

Using PLM to help manage your NPI process allows for visibility across departments and stakeholders. Below we see the states of a typical process:
Concept, Requirements Definition, Development, Validation Testing, Pilot Run, Production, Obsolete.



Workflow Map for Products Workspace

When I've done overview trainings of the program/project management capabilities of Fusion Lifecycle I turn to a super old 'treasure map' of how the bits and pieces of the software tools combine with the people.



Features and Benefits

- Document Requirements
- Coordinate and track projects right across the lifecycle of a product

- Easily work together and collaborate with everyone involved
- Flexible and configurable to drive your unique needs and processes
- Marketing can correctly describe and quantify customer needs and potential
- Aligns Service Marketing and Delivery to be consistent with Product Marketing
- Service can effectively install and support the product
- Speeds and streamlines Engineering's ability to design and test the product
- Sales gets the training and product knowledge to get more orders
- Order Admin can accept, record, and process sales orders
- Improves Manufacturing's ability to build, test and deliver what the customer ordered
- Finance and Admin easily and correctly recognize and allocate costs and revenues
- The Customer gets exactly what is needed, when wanted, and at the right price
- All of the above on budget and on schedule

Importance of NPI

Why is NPI so important? Product development is so competitive today – it's important for companies to identify the right products to work on – at the right time and the right cost. And cost doesn't just refer to money – there's the cost of man-hours.

Any new product idea you want to bring to market or any change you make you need to justify – will I make more money selling than it took to develop. Companies need a way to quantify and standardize the cost analysis and revenue forecasting. Need a place to coordinate these activities – so that teams from all the different company areas can keep tabs on how projects are going. This goes back to that overarching definition of PLM we saw earlier – keeps all departments in the know.

If this product costs xxx to manufacture and will cost 25 engineer years to develop, how to decide what to work on. You'll sometimes hear this called Product Portfolio Management. Market studies and analysis – if you have multiple products to consider, PPM can help you decide best 'bang for the buck'. Executives look for numbers around this – PLM gives you a place to document the details around the product activities and over all progress of projects.

Basic Fusion Lifecycle concepts

Site

A site is a specific instance of Fusion Lifecycle. It is this instance that a company customizes and configures for their specific needs. Your site contains all of the items, processes, and people that your company needs to track. An administrator within your company configures and manages the site.

Items

Items are the building blocks of Fusion Lifecycle. An item is a unique data record in a Fusion Lifecycle workspace. An item can be a specific part, an assembly, a person, a task, an organization, an asset, or whatever you are managing.

Workspaces

Your site is made up of workspaces. A workspace is a collection of items of the same type, behavior, and properties. A workspace is where you store, view, and work with data items that have the same attributes. Workspaces typically represent logical groupings, such as Items and BOMs, Change Requests, Change Orders, and Project Management.

Workflow

Workflow refers to the actions required to complete a process. Workflows control the process of managing workspace items. As an item progresses through the actions in a workflow (transitions), the state of the item in a workflow changes.

A typical workflow action is approval in a process. The workflow states associated with this action would be: 1. Waiting for approval (before the action of approving is performed) and 2. Approved (after the action of approving is performed).

The workflow process begins when you create a workspace item with workflow capabilities and the item enters the initial workflow state. The workflow action that was last performed determines the current workflow state. The current workflow state determines the actions that you can perform next in a workflow.

If a workflow is in a state that requires you to perform an action, you receive an email notification. You can perform a workflow action by opening the **Workflow Actions** tab in a given workspace.

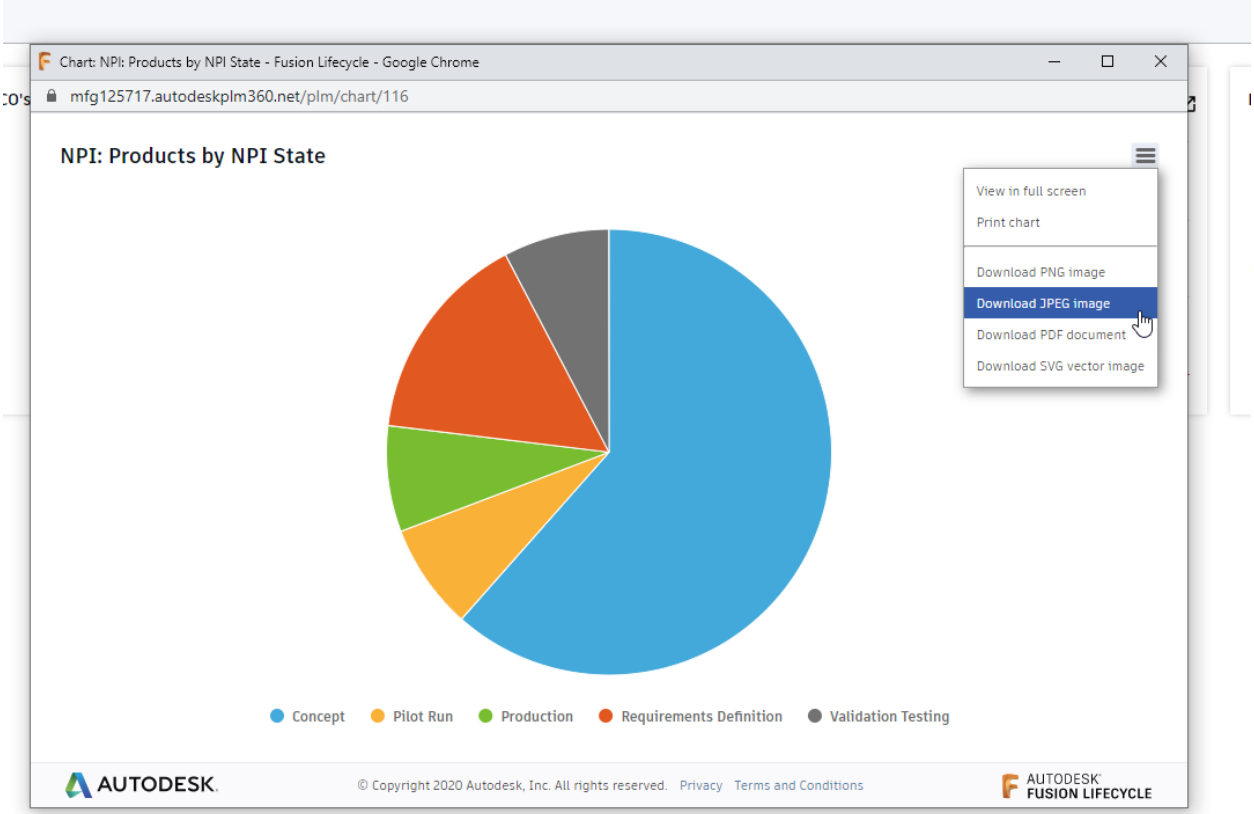
The process of performing actions and entering states continues until you can perform no further actions, and the workflow process is complete.

You and others who perform specific actions in a workflow process require the appropriate permissions for those actions. Your permissions determine what actions in a workflow you can perform.

Reports

The information inside of your NPI process can be rolled up into reports, displayed on the dashboard, viewable in the workspace. This information is what stakeholders use to evaluate the success or projects or determine to not develop the concepts any further.

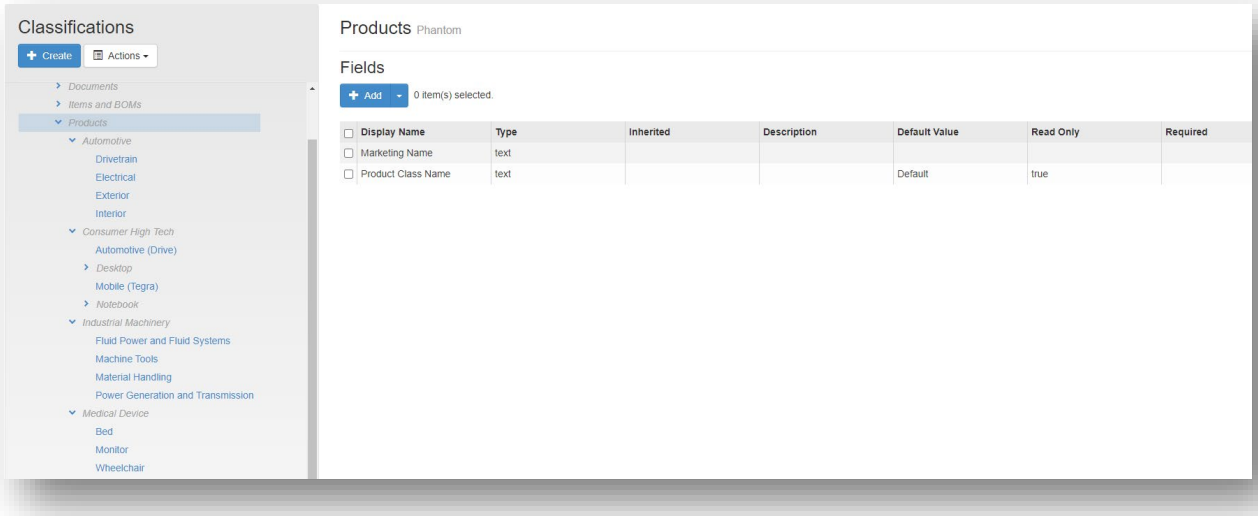
For further details about reporting in Fusion Lifecycle, I often point customers to this AU 2016 class: What Gets Measured Gets Managed – Reporting in Fusion Lifecycle. In addition to the picks and clicks necessary for creating both basic and advanced reports, it covers some of the strategies for building compelling reports for stakeholders.



A bonus tip! You can easilty create a .jpg from a chart to include in documentation (this is best when you need to communicate to those that don't have access to PLM). Even better – you can use the report URL and anyone with access can see the information real time. That way it's always up to date.

Classification

Although Classification may initially be thought of only relevant for cataloging records in the Items and BOMs workspace, it's quite helpful in the Producst workspace as well.



Notificications

Communication is a critical component in any project. There are quite a few capabilities in any PLM system to keep people aware – email, My Outstanding Work on the dashboard, reminders, escalations, delegations… I covered the details of setting these up in a previous AU class '[Start Spreading the News']'. There's also a stellar class from Katelyn Wilson '[Become a PLM Standout: Getting the Most from My Outstanding Work and Dashboards']'

Other recommended classes

I wanted to include a few courses from this years AU that you may want to check out.

Joint Effort: Vault and Fusion Lifecycle As the New Dream Couple
MFG463684

When used together, Vault Professional software and Fusion Lifecycle software provide a combined solution that is the best of all worlds for product data management (PDM) and product lifecycle management (PLM). While Vault runs on-prem to keep your CAD data safe behind your firewall, Fusion Lifecycle is cloud-based for flexibility and ease of deployment. With powerFLC (Vault Fusion Lifecycle connector), coolOrange offers an easy-to-use and flexible tool to combine Fusion Lifecycle and Vault processes. Previous versions of powerFLC included predefined workflows, and with the latest version of powerFLC, it is even possible to create custom workflows to synchronize any data between Vault and Fusion Lifecycle. This class will demonstrate the advantages of using both products together and show some of the endless possibilities of this integration.

Fusion Lifecycle and Vault: The Synergy
FAB468791

Learn how to increase efficiency in your development process by implementing Vault software and Fusion Lifecycle software. In this class, you will hear about the journey

Reynaers Aluminium took to move from its old product data management (PDM) system to a fully integrated solution: CAD, PDM, PLM (product lifecycle management), and enterprise resource planning (ERP). You will learn about the how and why behind our architecture and the lessons learned during implementation. Get insight into the place PDM and PLM have in our organization today, how they are connected with other core databases, and what our further digitalization road map looks like. Also discover how Fusion Lifecycle offers article lifecycle management as well as full project management by streamlining our NPI (new product introduction) flow. All project phases are implemented into Fusion Lifecyle, including a customized project management tab to enable real project planning. Integrating Fusion Lifecycle with Vault creates one common platform, resulting in an efficient way of collaboration as well as a single source of truth across the company.

Rapid Fusion Lifecycle Deployment When Time Is of the Essence
IM467317

Fusion Lifecycle software can be deployed faster than any other PLM (product lifecycle management) tool on the market. This was tested for a company that wanted to take its ventilator project to production in the shortest time possible due to the COVID-19 ventilator shortage. A prototype of the ventilator was completed using Fusion 360 software. Now it is time to take it into mass production using Items and BOMs, ECO, and NPI Workspace of Fusion Lifecycle.

Acronyms

Enterprise software can seem like a bit of bowl of alphabet soup at times! I've included a list of the common ones I used in my course.

- PLM – Product Lifecycle Management
- PDM – Product Data Management
- NPI – New Product Introduction
- NPD – New Product Development
- PPM – Product Portfolio Management
- BOM – Bill of Material
- AML – Approved Manufacturers List
- WBS – Work Breakdown Structure

My contact information again – always happy for some PLM Talk!
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